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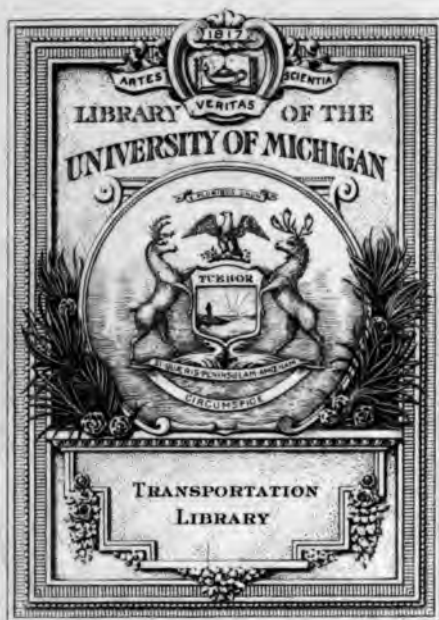
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RAILROAD SECURITIES
A COURSE OF STUDY WITH
REFERENCES

A. M. SAKOLSKI

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INTRODUCTORY

I—SCOPE OF THE COURSE:

A proper understanding of railroad securities involves a wide, though not necessarily a thorough, knowledge of railroad problems. The field of inquiry comprises engineering, operation, accounting, rate-making, and the legal and economic phases of the relationship between railroads and the state. It is not the purposes of this course to cover fully any or all of these topics. Only such data are referred to which have not been specifically or adequately covered in booklets already published by the Association or which because of their peculiar significance in railroad finance call for special inquiry.

Having in mind these considerations, the subject matter forming the basis of this book may be classified as follows:

(1) *Topics relating to the character and functions of American railroad corporations with particular reference to their relationship with the state, with the public, and with their security holders. This section comprises an analysis of railroad securities in so far as*

these are characteristic issues of American railroads.

(2) *Topics relating to the character of the transportation facilities.* Hereunder are analyzed the physical features of railroads in so far as they influence railroad operations and indicate the adjustment of transportation facilities to traffic demands.

(3) *Topics measuring efficiency and economy of operation.* These are the so-called traffic or "mileage" statistics, indicating the nature and volume of the traffic, and the cost in transporting and in handling the same, expressed under proper terms and in standard units.

(4) *Topics measuring the capital investment in relation to the corporate resources and liabilities.* Analyses of the railroad general balance sheet, together with capitalization and its readjustments are afforded by this class of material.

It is not intended to cover thoroughly any phase of these varied topics. The purpose throughout is merely to present the groundwork for more detailed study by the student. There is, moreover, no endeavor to point out actual illustrations relating to present-day railroad companies or to apply principles to particular railroad securities. It is expected that the student should work these matters out for him-

self and in this way exercise his own powers of judgment and research.

SOURCES OF INFORMATION:

The references and sources of information relating to railroad securities and matters affecting same are of four general classes, viz.: (a) The primary materials, such as original incorporation papers, annual reports, mortgages, and other documents or publications of the railroad companies; (b) The statistical and financial manuals, including the reports and publications of the Interstate Commerce Commission; (c) the text books and treatises on railroads, and (d) the periodicals.

(a)—PRIMARY OR ORIGINAL SOURCES:

These consist of the various incorporation and other papers of railroad companies on file with public authorities (viz.: the Secretary of State, public utility commissions or the Interstate Commerce Commission); the actual mortgages as filed in the public records; reorganization papers; the annual reports of the railroad companies to their stockholders; the documents and statements filed with public service commissions, and the statements furnished to stock exchanges when application is made to list securities thereon, together with such other documents and reports that are prepared directly by or

under the auspices of the railroad corporations or their officials.

Much of this material is not available to the average student, and, except in special cases requiring detailed investigation, such data may not be found essential. From a practical standpoint it is hardly necessary to have even a partial file of such documents, inasmuch as the secondary sources mentioned below furnish in more convenient form all that is usually required to obtain essential investment information.

(b)—STATISTICAL AND FINANCIAL MANUALS:

These consist of (1) the standard publications issued by private publishing concerns, and (2) the periodical official publications of the Interstate Commerce Commission and the state public utility commissions. Among the leading private publications are the following:

1—*Poor's Manual of Railroads* (now called the "*Corporation Manual*"):

This has been the standard reference book for over half century. It is issued annually and contains in addition to financial and operating statistics of individual railroads, descriptions of all security issues, etc. It is an indispensable book of reference to the student, statistician, bond salesman, and investor.

2—*Moody's Analyses of Railroad Investments:*

The first issue of this publication was in 1909. It has been put out annually since this time. The plan followed is somewhat different from that of Poor's Manual, but the purpose of the two publications is essentially identical. The introductory section of *Moody's Analyses* contains a short essay on the study of railroad investments which will be found very helpful to students and others intending to use the work. In addition, the volume contains a "key to bond and stock ratings" very similar to the credit rating methods of the mercantile agencies such as Bradstreets and Duns.

3—*Railway and Industrial Supplement of the Commercial and Financial Chronicle (issued three times a year):*

This is of considerable value to the student, as it contains in condensed form information regarding the dates of bond issues, amounts authorized and outstanding, interest periods, due dates, brief histories and descriptions of the railroad property, etc. The publication is regularly furnished to subscribers of the *Commercial and Financial Chronicle*.

4—*Fitch Bond Book:*

Issued annually by Francis Emery

Fitch, Inc., New York. Contains in condensed form data of practically all railroad bond issues.

5—*White and Kemble's Atlas and Digest of Railroad Mortgages:*

This is an elaborate compilation, and rather too expensive for most students. The leading investment and banking houses, however, generally maintain complete sets. The maps are issued and replaced from time to time in order to adapt them to changes in and additions to the mortgages, liens, and other financial developments of the individual railroad systems.

6—*Standard Statistics Card Service:*

Contains on cards much of the information found in the manuals and bond books.

Among Government statistical publications relating to railroads are:

1—*Interstate Commerce Commission:*

Annual Report on the Statistics of Railroads in the United States. The statistics comprising mainly the mileage, traffic data, and the financial statements that relate to individual railroad corporations. They are accordingly different in many cases from the returns contained in the annual reports to stockholders.

All the railroad companies are required to submit annual reports on prescribed forms to the Interstate Commerce Commission.

2—*Public Service Commission of New York; 1st District:*

Annual Report (containing statistics of Railways). Contains statistics relating to railroads operating in New York State, similar to data published by the Interstate Commerce Commission.

(c)—TEXT BOOKS AND TREATISES:

There are innumerable text books on all phases of railroad problems, many of which have no direct interest to the student of railroad finance. The works which are most useful to students of the course and which are referred to at the head of each of the chapters are listed on pages 101-105.

(d)—PERIODICALS:

Of these, the most valuable to the bond student are:

1—*The Commercial and Financial Chronicle (issued weekly):*

Contains news items and digests of reports of the railroad companies. A monthly supplement, "The Railroad Earnings Section," furnishes statements of monthly earnings and operating ex-

penses as reported by the companies to the Interstate Commerce Commission.

2—*The Railway Age, New York (issued weekly)*:

The leading and most authoritative railroad organ.

3—*The Railway Review, Chicago (issued weekly)*:

(e) MISCELLANEOUS:

Publications and bulletins of the Bureau of Railway Economics, Washington, D. C.

The Bureau of Railway Economics is a research and publicity organization maintained by the railroads. It publishes periodically statistics of railroad earnings, car service, wages, etc.

RAILROAD SECURITIES
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REFERENCES

CHAPTER I

Railroad Corporations

References:—

HADLEY, A. T., "Railroad Transportation," Chapter III.
RIPLEY, "Railroads, Finance and Organization," pp. 1-52.

I. NATURE OF RAILROAD INVESTMENT.

"A railroad differs from many other lines of business in the existence of a *large permanent investment*, which can be used for one narrowly defined purpose."

"This large permanent investment necessarily affects the relations of a railroad to its owners, to its users, and to the law."—
(HADLEY, "Railroad Transportation.")

TWO GREAT CENTRAL FEATURES OF A RAILROAD.

1. *Extent of plant*, i. e., the physical property, extends over a wide geographical area.

2. *The public character of its service.*

The former is a feature which distinguishes a railroad from most other public utilities, and the latter is the feature which distinguishes them from ordinary commercial and industrial undertakings.

MOTIVES FOR RAILROAD INVESTMENT:

References:—

CLEVELAND & POWELL, "Railroad Finance," Chap. I, 1-13, 96-106.

SAKOLSKI, "American Railroad Economics," pp. 85-101.

WELLINGTON, "Railway Location," Chap. I, pp. 1-26.

1.—*As a profitable enterprise.*

From a strictly business viewpoint there is but one dominant motive of railroad construction and operation, viz., the expectation of a profit from the enterprise.

2.—*As an instrument of public service.*

A fundamental purpose in the promotion of railroads was to provide a public service, and thereby confer economic benefits on the communities served. It is with this object in view that the early railroad legislation in the United States encouraged railroad construction. As President Hadley ("Railroad Transportation," Chap. VII) pointed out, "the only fear was that railroads would not be built as fast as they were needed."

PRINCIPAL FORMS OF PUBLIC PROMOTION OF RAILROAD CONSTRUCTION:

1. Direct government and state construction.
2. National, state, and municipal financial subsidies.
3. Land grants and gifts of right of way.

4. Grant of special privileges such as exemption from taxation, guarantees of interest on securities, etc.

II. LEGAL RIGHTS AND DUTIES OF RAILROAD CORPORATIONS.

References:—

RIPLEY, "Railroads, Finance and Organization,"
Chaps. IX-X, pp. 281-370.

HADLEY, "Railroad Transportation," Chapter VII.
The Interstate Commerce Act and amendments.

I—RAILROAD CHARTERS:

- (a) *Charters granted by special legislative acts.*

Most of the early railroads (i. e., railroads built during the first half of the 19th century) were organized and chartered under special legislative acts. This practice has prevailed in some states to the present time.

- (b) *Charters granted under a general railroad law.*

This is now the usual method in the United States. The first general railroad law in New York was enacted in 1848. Other states followed closely.

2—LEGAL RIGHTS OF RAILROADS:

1. *Under State Laws.*

- (a) The right to appropriate land under condemnation proceedings.

- (b) The right to cross public highways and to otherwise use public property.
 - (c) The right to operate as a common carrier and charge rates and fares for services.
2. *Under Federal Laws.*
- (a) The right to operate in interstate commerce.
 - (b) The right to charge rates and fares that will furnish a reasonable return on the fair value of the property used in transportation.

III. GOVERNMENT REGULATION AND CONTROL.

Federal Constitutional provisions forming basis of regulative authority:

“Congress shall have power to regulate commerce with foreign nations and among the several States.” (ART. I, SEC. 8.) “No person shall be deprived of life, liberty, or property without due process of law, nor shall private property be taken for public use without just compensation.” (VTH AMENDMENT.)

. . . “Nor shall any State deprive any person of life, liberty, or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws.” (XIVTH AMENDMENT).

BASIS OF STATE REGULATION:

“All powers not delegated by the Con-

stitution to the United States are reserved to the States respectively or to the people." (XTH AMENDMENT).

Features of Federal Regulation of Railroads.

1. Control of rates, fares, and charges.
2. Public safety in the matter of safety devices, locomotive boiler inspection, and other matters of protection to travellers and to the public.
3. Railroad labor legislation.
4. Finance and accounting.
5. Physical development and expansion.
(See Appendix I, Transportation Act of 1920.)

Legal Liabilities of Railroads are defined:

Under State laws as contained in the state charters, the acts of incorporation, and as construed from the common law relating to common carriers.

Under Federal laws, as construed by the Supreme Court under Article I, section 8, of the United States Constitution giving Congress power to regulate commerce among the states; and under the Interstate Commerce Act of 1887 and the subsequent amendments thereto.

The liabilities of railroads under both State and Federal legislation have resulted in public control of rates, charges, of operation, and of other details. Federal regulation, culminating in the Transportation Act of 1920, has to a

large extent superseded state control. (See Appendix pp. 87-89.)

Justice Hughes in the *Northern Pacific Ry. vs. North Dakota* opinion summed up the liabilities of railroads as follows:

"The railroad property is private property devoted to public use. As a corporation, the owner is subject to the obligations of its charter. As the holder of special franchises it is subject to the conditions upon which they were granted. Aside from specific requirements of this sort, the common carrier must discharge the obligations which were in the nature of its business. It must supply facilities that are reasonably adequate; it must carry upon reasonable terms; it must serve without unjust discrimination—these duties are properly called public duties, and the State, within the limits of its jurisdiction, may enforce them.

"The State may prescribe the rules to insure fair remuneration and to prevent extortion, to secure substantial equality of treatment in like cases, and to promote safety, good order, and convenience. But, broad as is the power of regulation, the State does not enjoy the freedom of an owner. The fact that the property is devoted to a public use on certain terms does not justify the requirement that it shall be devoted to other public purposes, or to the same use on other terms, or to the imposition of restrictions that are not reasonably concerned with the proper conduct of the business according to the undertaking which the carrier has expressly or impliedly assumed. The public interest cannot be invoked as a justification of demands which pass the limits of reasonable protection and seem to impose upon the carrier burdens which are not incident to its engagement." (236 U. S. 595.)

CHAPTER II

Railroad Systems of the United States

References:—

POOR's "Manual of Railroads."

SNYDER, "American Railways as Investments."

VAN OSS, "American Railroads as Investments."

SAKOLSKI, "American Railroad Economics," Chap. III.

INTERSTATE COMMERCE COMMISSION, "Special Report on
Inter-corporate Relationship, 1906."

RIPLEY, "Railroads, Finance and Organization," Chaps.
XIV and XV, pp. 456-551.

I. DEVELOPMENT OF RAILROAD SYSTEMS.

The railroad systems of the United States have developed largely through the combination and merger of small independent railroad corporations.

The aim of railroad system development is to comprise within one transportation unit the lines connecting two or more regions of large traffic interchange. Thus, in the early years of American rail transportation the aim was to connect the Atlantic ports with the Great Lakes or with the Ohio and Mississippi River settlements.

The student should consult the history of leading American railroad systems in VAN OSS and in SNYDER cited above.

Trunk Lines. The railroad companies whose lines afford a continuous transportation unit between two great centers of traffic interchange are known commonly as *trunk lines*. A *trunk line*, therefore, may be defined as a system of railroad lines whose principal tonnage moves between two great centers of traffic. Because the lines extending from the Great Lakes and the Mississippi or Ohio valleys to Atlantic ports were the original trunk lines in the United States, this territory is known in freight rate adjustments as "trunk line territory."

Local lines, as distinguished from *trunk lines*, serve intermediate traffic centers. They therefore must interchange their long haul (through) shipments with connecting lines or systems.

PRINCIPAL ADVANTAGE OF SYSTEM DEVELOPMENT.

The whole profit remains with the railroad when the full service of a through shipment is made over its lines from point of origin to place of destination. This factor should be fully considered in estimating the traffic features of individual railroad companies.

II. METHODS OF RAILROAD SYSTEM DEVELOPMENT:

References:—

RIPLEY, "Railroads, Finance and Reorganization,"
Chaps. XIV and XV.

CLEVELAND & POWELL, "Railroad Finance," Chap. XV.

SAKOLSKI, "American Railroad Economics," pp. 51-56.

1. By merger of two or more railroad corporations.

A good example of merger is the combination resulting in the present New York Central Railroad.

2. By acquisition of a controlling proprietary interest in the capital stock of connecting railroad corporations..
3. By lease of connecting lines.

The period of these leases range from a few years to 999 years (as in the case of the lease of the West Shore railroad by the New York Central).

In many cases the *holding company* (i. e., the company having administrative control through stock ownership) is also the lessor corporation.

4. Community of interest or identical administrative control of railroad corporations having connecting lines and forming together a system:

The significance of community of interest of connecting lines lies in:

- (a) the profits arising from interchange of traffic,
- (b) the probability of ultimate merger into one corporation,

- (c) improved banking and financial support for the poorer company.

In order to counteract the competitive handicaps of railroads having no "community of interest" with other systems comprising a through traffic route, legislation has been enacted (a) giving shippers the right to route their traffic (Interstate Commerce Act, Sec. 15), and (b) prohibiting interlocking directorates, i. e., prohibiting directors of one railroad from acting also as directors of another independent railroad. (The Clayton Act.)

5. The formation of a *through traffic route* without unified administrative control.

A good example of a traffic route comprising several independent railroad corporations is "The Queen and Crescent Route."

6. The acquisition of "trackage rights" i. e., the "running rights" over the lines owned by another corporation.

III. CORPORATE MANAGEMENT AND BANKING CONNECTIONS OF RAILROAD SYSTEMS.

References:—

RIPLEY, "Railroads, Finance and Reorganization," Chaps. XIV and XV, pp. 456-551.

SAKOLSKI, "American Railroad Economics," Chap. III, pp. 44-81.

MORRIS, "Railroad Administration," Chap. VIII.

I. IMPORTANCE OF EFFICIENT ADMINISTRATIVE CONTROL:

“The character and resources of the administrative control of any business enterprise are fundamental elements of its investment value.” (SAKOLSKI, p. 51.)

(a) *Operating management.*

Good operating management requires that the managers be efficient and experienced railroad men.

(b) *Financial management.*

This implies that satisfactory facilities for obtaining credit are at hand. One or more large banking concerns should be identified with the financing of the company.

As the board of directors of a railroad are responsible for its financial policies, directors as a rule should be men of financial influence.

2. STOCKHOLDERS:

Advantage to a railroad company in having a large number of stockholders:

- (a) In creating favorable public sentiment toward the company.
- (b) In obtaining diversified interests among the corporate directors.
- (c) In popularizing the company's securities, thereby furnishing a broader market.

CHAPTER III

Classification of Railroad Systems of the United States

References:—

SAKOLSKI, "American Railroad Economics," Chap. III, pp. 44-84.

RIPLEY, "Railroads, Finance and Organization," Chaps. XIV and XV, pp. 456 et seq.

I. THE NEW ENGLAND SYSTEMS.

1. General character of territory.
2. Geographical location of principal systems.
3. Traffic and corporate relationships.
4. Control of steamship lines.

II. THE EASTERN TRUNK LINES.

1. General character of territory.
2. Geographical location of principal systems.
3. Competitive advantages and disadvantages.
4. Sources of traffic.
5. Connecting lines.

III. THE ANTHRACITE ROADS.

1. Geographical location and markets served.
2. Competitive advantages and disadvantages.
3. Ownership of coal mines and coal lands.

IV. THE BITUMINOUS ROADS IN THE EAST.

1. Geographical location of lines.
2. Sources of coal traffic and markets served.
3. Ownership of coal and coal lands.

V. SOUTHERN ROADS.

1. General character of territory.
2. Geographical location of principal systems.
3. Competitive advantages and disadvantages.
4. Sources and character of traffic.
5. Traffic and corporate relationships.

VI. MIDDLE WEST LINES IN THE NORTH.

1. General character of territory.
2. Lines running east of Chicago.
3. Lines running west of Chicago.
4. Traffic and corporate relationships.

VII. MISSISSIPPI VALLEY LINES.

1. General character of territory.
2. Geographical location of lines.

3. Competitive advantages and disadvantages.
4. Traffic relationships and corporate control.

VIII. NORTHWESTERN TRUNK LINES.

1. General character of territory.
2. Geographical location of lines.
3. Competitive advantages and disadvantages.
4. Traffic relationships and corporate control.
5. Steamship lines.

IX. SOUTHWESTERN TRUNK LINES.

1. General character of territory.
2. Geographical location of principal systems.
3. Competitive advantages and disadvantages.
4. Traffic relationships and corporate control.
5. Steamship lines.

X. CANADIAN RAILROADS.

1. The Canadian Pacific Railroad.
2. Government owned railroads.
3. American controlled lines.

CHAPTER IV

Classes of Railroad Securities

References:—

RIPLEY, "Railroads, Finance and Organization," p. 89 et seq.

CHAMBERLAIN, "The Principles of Bond Investment," Chap. IV, pp. 29-38.

SHORT, "The Law of Railway Bonds and Mortgages," Chap. I, pp. 1-42.

HEFT, "Holders of Railroad Bonds and Notes," Chap. II, pp. 8-55.

SAKOLSKI, "American Railroad Economics," Chap. II, pp. 17-44.

I. FUNDAMENTAL DISTINCTION BETWEEN STOCK AND BONDS OR NOTES.

A *share of stock* is a negotiable certificate giving the holder certain rights of *propriatorship*.

A *bond* is an acknowledgment of indebtedness not essentially different from a promissory note. The bond, therefore, places the holder in the position of a *creditor*.

The fact that the stockholder is theoretically a "propriator" and not a "creditor" settles upon him certain of the rights and duties of propriatorship. These, however, can be exercised only in respect to the same rights and duties of the other shareholders.

The principal rights of the railroad stockholder usually are:

- (a) A *pro rata* vote in the selection of the management of the corporation.
- (b) A *pro rata* claim or interest in the assets and net earnings of the company.

These rights may be limited and defined by the contract under which shares of stock are issued.

II. CLASSIFICATIONS OF RAILROAD STOCKS.

- 1. Common Stock.
- 2. Preferred Stock:
 - (a) having preference as to dividends.
 - (b) having prior claim on assets, in case of liquidation.
 - (c) having voting power:
 - (1) equal with common stock (usual).
 - (2) or exclusive (seldom).
 - (3) or special.
 - (4) or none (seldom).
 - (d) other features:
 - (1) callable, by payment of cash sum.
 - (2) convertible into another security.
 - (3) participating in profits above the preferred dividend payment.
- 3. Stocks analogous to Preferred:
 - (a) Special stock (an unusual issue).
 - (b) Guaranteed (i. e., guaranteed by another company).

Preferred stock dividends may be either "cumulative," or "non-cumulative," the former being in the nature of a fixed charge, be-

cause if the corporation is unable to pay the dividend in one year, it must be paid in succeeding years, together with the accrued unpaid dividends, before the common can receive anything. No such privilege attaches to non-cumulative stock. Railroad preferred stocks are generally non-cumulative, though there are several railroads that have a cumulative dividend feature in their preferred stock issue: (viz., The Rutland preferred stock.)

III. DEFINITION OF FUNDED INDEBTEDNESS.

Funded Indebtedness as defined by the Interstate Commerce Commission comprises all bonds or other certificates of indebtedness having a maturity period of one year or more. These form a part of the *capitalization*, whereas, indebtedness of a maturity period of less than one year is *Current Indebtedness* and is not included in the aggregate of capitalization. This distinction between *Funded* or *Capital Indebtedness* and *Current Indebtedness*, though arbitrary, is nevertheless useful in comparative analyses of capitalization.

The holders of railroad obligations, in their capacity as creditors, generally have no voice in the administration of their debtor companies. There are a few exceptions, however. The holders of two classes of Erie Railroad bonds—the Prior Lien and the General Lien Bonds—aggregating approximately \$84,000,000, have proportionately equal voting rights with the \$176,271,300 par value of stock.

IV. RAILROAD BONDS.

There is a perplexing multiplicity in the kinds of railroad bonds. This is due chiefly to the limitation in the amount of bonds of a single corporation covering specific liens or having specific security. The student is cautioned against accepting the name or title of a bond as an indication of its class or its character.

I. CLASSIFICATION IN ACCORDANCE WITH THE NATURE OF THE BOND.

1. *Plain Bonds or Debentures.*

These are obligations or certificates of indebtedness issued on the faith and credit of the company without the pledge, hypothecation, or specific lien on property or franchises. They are thus similar to ordinary promissory notes.

2. *Mortgage or Lien Bonds.*

These are secured by a hypothecation or pledge of specific property or franchises or both. In case of default on the part of the debtor company these liens give the holders a claim in preference to other creditors. The lien may cover realty, personalty, or both.

Debentures may become a mortgage bond because of an agreement of the debtor company not to place a mortgage on its property unless the debentures are also secured thereunder.

3. *Collateral Trust Bonds.*

These differ in one essential particular from mortgage bonds. In place of phys-

ical property they are secured by a *pledge of securities deposited with a trustee*. Collateral trust bonds, therefore, may be an indirect lien on physical property through the pledging of mortgage bonds. When stocks are pledged there is a lien upon the equities represented by these securities. Two or more classes of securities may be pledged for one issue of collateral trust bonds. In addition, a direct lien may be granted on physical property as further security. Thus a collateral trust bond may be partly a mortgage bond, just as a mortgage bond may be partly secured by pledge of securities as collateral. The pledged securities are conveyed "in trust" to a trustee, with whom they are generally deposited. The investment value of collateral trust bonds depends, *first, upon the character and intrinsic value of the pledged securities and, secondly, upon the general credit and financial standing of the company pledging the security.*

4. *Guaranteed or Assumed Bonds.*

Guaranteed Bonds represent obligations of one corporation guaranteed as to payment of interest or principal or both by another corporation. Usually the guarantor is either the owner of a controlling stock interest in the debtor company or leases or otherwise uses its property. The

guaranty is generally in the form of an endorsement on the bond by the guarantor.

Assumed Bonds are obligations of one corporation which have been assumed by another company. The assumption of the obligation is usually the result of corporate mergers and reorganizations. Its effect in no way impairs or alters the contract under which the bonds were originally issued.

II. CLASSIFICATION IN ACCORDANCE WITH THE PRIORITY OF THE LIEN OR THE CHARACTER AND PURPOSE OF THE BONDS.

Superior Liens usually are represented by "First Mortgage" or "Prior Lien" Bonds. Bonds with different names, however, may constitute prior and superior liens, viz., "consolidated mortgage," "divisional mortgage," etc.

Inferior Liens are usually denominated as "Second," "Third," "General," "First and Refunding" Bonds. *The names of bond issues, however, in many cases do not indicate the nature of the lien.*

Divisional Mortgage Bonds usually represent issues, the mortgage security of which covers a division or portion of a railroad property usually not its main line.

General Mortgage Bonds are so named because the security covers the whole or a large part of the railroad property al-

ready covered in some way by preëxisting and prior liens. The mortgage is commonly termed a "blanket mortgage." General mortgage bonds are also frequently designated as "Refunding" because the issue provides for the refunding or the paying off at or before maturity of prior liens.

Consolidated Mortgage Bonds are similar in their character and purpose to *general mortgage and refunding bonds*.

III. CLASSIFICATION ACCORDING TO THE PROVISIONS FOR PAYMENT OF INTEREST AND PRINCIPAL.

I. *According to Payment of Interest.*

(a) *Bonds of fixed or unconditional interest payment.*

The issuing railroad corporation contracts to pay the holder periodical interest without conditions or reservations. This class of bonds constitutes the bulk of American Railroad issues.

(b) *Income Bonds.*

The interest payment is contingent on some condition or reservation. Usually the payment is made dependent on the amount of available net revenues of the debtor corporation.

An income bond is *cumulative* when the unpaid periodical interest payment becomes a charge against future earnings. It is *non-cumulative* when the

interest lapses if not paid on the due date and is no further charge on the debtor corporation.

Income bonds may be issued under the condition that if net revenue of the railroad is available for the payment of the interest, the amount up to the designated rate should be paid on the due date to the holders of the bonds. Other issues of income bonds leave the option of payment to the corporation. In no event, however, are dividends in any period to be paid on stock unless the payment of interest on income bonds for the period has been met. In this respect, income bonds resemble *preferred stock*.

Income bonds are sometimes known as "adjustment bonds." On the whole, they constitute a small part of railroad funded indebtedness. (See Chapter XIII.)

2. *According to the Payment of Principal.*

- (a) *Sinking-Fund Bonds* are those for which the mortgage deed requires that a stated sum shall be set aside, periodically, out of earnings in order to retire the bonds in whole or in part at or before maturity. (*Chamberlain*, p. 286.)
- (b) *Serial Bonds* are issues that are retired in regular instalments. (*Chamberlain*, p. 110.)
- (c) *Callable or Redeemable Bonds* are so entitled because the maturity of the loan is affected by the debtor's right to retire the obligation before the maturity date. (*Chamberlain*, p. 111.)

- (d) *Premium Bonds* are those for which retirement at maturity is made at an amount in excess of the principal. They are very uncommon among railroad bonds.

IV. CLASSIFICATION IN ACCORDANCE WITH SPECIAL PRIVILEGES GRANTED TO THE BONDHOLDERS.

1. *Convertible Bonds.*

These bonds carry the privilege to the holders of exchanging them under specified conditions for a class of stock or some other security of the debtor company. The value of the conversion privilege depends on the financial progress of the company and the prospects of appreciation in market value of the security which may be obtained through conversion.

2. *Voting Bonds.* (See page 19.)

There are a very few railroad bond issues having full voting rights equal to those of the ordinary stockholder.

CHAPTER V

Railroad Mortgages

References:—

HEFT, "Holders of Railroad Bonds and Notes," Chap. III,
pp. 56-115.

LYON, "Corporation Finance."

LILLY, "Individual and Corporate Mortgages," Part II.

SHORT, "The Law of Railway Bonds and Mortgages," pp.
160-258.

HARDING, "Corporate Securities," pp. 6-18.

I. MEANING OF THE MORTGAGE.

The mortgage transfers to a trustee or trustees as representatives of the bondholders "all right, title, and interest" in the railroad or such other property devoted to specially securing the payment of the debt. The trustees are "to have and to hold forever" the property, *but with the proviso* that if the principal and interest on the bond issue be paid in full, as promised, this transfer is to become void and the title in the property is to revert to the railway company. Should the company, however, fail to execute the covenants in the mortgage, the trustee in the interest of the bondholders may seek through prescribed proceedings to assert the

claim of title granted by the mortgage. In exercising this right, the trustee in the interest of the bondholders has a claim on the proceeds of the sale of the property superior and prior to the claim of ordinary creditors of the company.

2. REASONS FOR THE TRUSTEE.

“Railroad mortgages are made usually to secure an issue of bonds for large sums offered for sale in the money markets of the world, and held by persons scattered by residence or travel over the universe. It must be apparent how impracticable it would be to have each bondholder a party to the mortgage that secured his bond. Then every transfer of a bond would require the transfer of a corresponding interest in the mortgage.” (HEFT, p. 117.)

3. PRACTICAL DISTINCTION BETWEEN A RAILROAD MORTGAGE AND THE ORDINARY REAL ESTATE MORTGAGES.

An ordinary real estate mortgage is based upon the value of physical property that may be applied to various uses without reference to franchise, charter grant, or operations of the mortgagor.

The lien of a railroad mortgage is upon property considered *as a going concern*. The security of the bond, therefore, is not so much on the physical property value as upon the profits that may be derived from its operation and use.

4. PROVISIONS OF THE MORTGAGE THAT ARE OF GREATEST CONCERN TO BONDHOLDER:

(a) THE AMOUNT OF THE BONDS:

1. Amount authorized to be issued.
2. Amount outstanding and to be presently issued.

(b) DESCRIPTION OF PROPERTY COVERED BY THE MORTGAGE:

1. Geographical location and mileage of railroad lines.
2. Terminal property and real estate included.
3. Other property and franchises.

(c) ASSIGNMENT OF AFTER-ACQUIRED PROPERTY UNDER THE MORTGAGE:

If title to property acquired after the execution of the mortgage is required by the terms of the mortgage contract to be assigned to the trustee of the bondholders, the bonds thereby secured have an enhanced equity.

(d) RELEASE OF PARTS OF MORTGAGED PROPERTY SOLD OR DISPOSED OF BY THE RAILROAD:

The bondholders should be protected either by a prescribed payment to the trustee of money or property received for released property or by a substitution of other assets equally as valuable as the property released.

**(e) PRESCRIBED PROCEEDINGS BY TRUSTEE
IN CASE OF DEFAULT:**

It is usually specified that if default is made in the performance of any agreement contained in the mortgage (such as the payment of interest upon the outstanding bonds), the whole amount of the principal of the bonds becomes due and payable.

The consent of the holders of a specified amount of the bonds outstanding is usually required to determine and control positive action by the trustee. As a Supreme Court Justice remarked:

"It rarely happens in the United States that foreclosures of railway mortgages are anything else than the machinery by which arrangements between creditors and other parties in interest are carried into effect, and a reorganization of the affairs of the corporation under a new name brought about." (CHIEF JUSTICE WAITE in *Can. Southern Railroads vs. Gebhard*, 101 U. S. 539.) See also Chapter XV.

**(f) PROTECTION AND INSURANCE OF PROPERTY
AGAINST PHYSICAL IMPAIRMENT OR DE-
STRUCTION AND AGAINST THE INCURRING
OF PRIOR LIENS SUCH AS TAXES, ME-
CHANICS LIENS, ETC.**

**(g) PROVISIONS FOR REDEMPTION AND RE-
PAYMENT OF THE PRINCIPAL OF THE BONDS:**

These include:

1. Prescribed redemption privilege (if any) by company in advance of maturity date.
2. Prescribed redemption through compulsory accumulation or payment of

sinking funds or the application of surplus earnings to the purchase of outstanding bonds.

Very few railroad bonds are retired through sinking funds. The bonds of the Chicago, Burlington and Quincy railroad are exceptionable in having redemption features through annual sinking fund applications and the company is to-day reaping the benefit of these provisions established by its early managers.

(h) PROVISIONS REGARDING PAYMENT OF TAXES.

These provisions usually refer exclusively to such taxes that the debtors corporation may be required by law to deduct from the interest payments made to bondholders. And exception is now usually made of Federal Income Taxes and inheritance or succession taxes.

The clause in the deed of trust containing tax exemption provisions usually reads as follows:

All payments on the bonds, both of principal and interest, shall be made without deduction for any tax or taxes (except the excess of any Federal normal income tax—and inheritance or succession taxes) which the A. B. Company or the Trust Company may be required to pay thereon or retain therefrom under any present or future law of the United States or of any state, county, or municipality or other taxing power therein.

CHAPTER VI

Equipment Trust Certificates

References:—

CHAMBERLAIN, "The Principles of Bond Investment,"
Chap. XXIII, pp. 291-303.

CLEVELAND & POWELL, "Railroad Finance," pp. 81-93.

A. S. DEWING, Article in *American Economic Review*, June,
1917.

F. RAWLE. "Car Trust Certificates," A paper read
at the Eighth Annual Meeting of the American Bar
Association.—1885.

G. G. HENRY, "How to Invest Money," Chap. III, pp.
40-50.

DAVIS & BROWNE, "Car Trusts in the United States,"
(1894).

HARDING, "Corporate Securities," pp. 19-26.

DEFINITION: A security representing a loan
of money based on a direct lien of specific
units of rolling stock.

Equipment Trust obligations are peculiar
in form, in security, and in investment status.
Their value rests to some extent on the gen-
eral credit of the railroad corporation using
the equipment, yet this general credit has
little to do with determining their intrinsic
investment merits.

INVESTMENT POSITION: As a whole, the investment position of equipment trust certificates are stronger than any other form of corporation security.

LEGALITY: Equipment trust certificates represent a lien on personalty. Their legal status has never been fully determined by the courts, yet their legality has never been questioned. (Dewing.)

PRIORITY: Their priority in respect to lien on equipment has been maintained against first mortgage bonds.

EXTENT OF USE BY RAILROADS: Although conceived in the beginning as a means of enabling new or impoverished roads to acquire equipment when their borrowing capacity was small, equipment trust obligations are now used by the strongest roads in the country. Two important reasons for issuing these securities are:

- (1) The lower interest rates prevailing on equipment trust obligations.
- (2) The evasion of the "after-acquired clause" in railroad mortgages.

KINDS OF EQUIPMENT TRUSTS:

1. Those issued under the *Philadelphia Plan* by which the equipment is purchased by an association or corporation that leases such equipment to the railroad for a term of years at a rental

equivalent to the interest and maturing installments of the bonds.

2. Those issued under the "*Conditional Sale*" Plan, under which the trustee holds title to the equipment through a chattel mortgage.

The *Philadelphia Plan* technically places the ownership of the equipment in an organization *other than the railroad company*. The equipment is furnished to the using railroad under a lease and at a rental consisting of (a) a certain cash payment to cover initial installment on the equipment and (b) a periodical rental sufficient to meet the the interest and amortization of the principal on the obligations issued under the equipment trust. The lease runs until the last bond is paid, when the equipment is conveyed in fee to the railroad company.

The *Philadelphia Plan* is said to have originated through the refusal of the Pennsylvania Courts to sanction conditional sales (DEWING). Its use by Pennsylvania corporations is also said to be due to the exemption from taxation in that state of this class of security (HENRY, p. 42).

The "*Conditional Sale*" Plan is essentially a chattel mortgage and gives under a conditional sale the use of the equipment to the borrowing railroad company. The property, however, is mortgaged directly by the railroad company under a deed of trust as in any other mortgage.

Under the "*Conditional Sale*" Plan the equipment trust certificates are the direct obligation of the railroad company, whereas under the *Philadelphia Plan* the certificates are the obligations of the car trust association or other concerns holding title to the equipment. The certificates of the car trust association are usually guaranteed by endorsement by the railroad company. These are the most important distinctions between the two plans.

TWO CLASSES OF EQUIPMENT SECURITIES:

1. Serial Issues.
2. Sinking Fund Issues.

INVESTMENT FACTORS RELATING TO EQUIPMENT TRUST CERTIFICATES:

1. The issue should not extend beyond the normal period of usefulness of the equipment.
2. The amount of the issue should be less than the first cost of the equipment.
3. The equipment should be of a modern interchangeable type in general use.
4. Provision should be made requiring the maintenance of the equipment in good condition.
5. The payment of principal and interest should be a direct obligation or a guaranty of the issuing company.

CHAPTER VII

Analysis of Geographical Location

References:—

SAKOLSKI, "American Railroad Economics," pp. 43-47.
The Railroad and Industrial Supplement of the *Commercial and Financial Chronicle*.

I. LOCATION OF TERMINAL POINTS WITH REFERENCE TO TRAFFIC.

The goal of railroad system development is to acquire a through route between two or more important centers of traffic interchange.

Important considerations are:

- (a) Does the geographical location afford through traffic in both directions?
- (b) Is the traffic seasonal (fluctuating) or constant throughout the year?
- (c) Are the terminal points such as to promote a *diversified traffic*, i. e., the movement in both directions of various classes and kinds of raw materials and manufactured products? (See Chapter XI, p. 54.)

II. LOCATION WITH REFERENCE TO INTERMEDIATE CENTERS OF TRAFFIC INTERCHANGE.

A prime motive in planning the route of a railroad is to have the lines reach as many intermediate population centers within the region traversed as may be practicable and economical.

Important considerations are:

- (a) Traffic centers reached by main line.
- (b) Traffic centers reached through branches.
- (c) Traffic centers reached through local connecting railroads or through electric lines and water routes.

III. LOCATION WITH REFERENCE TO TOPOGRAPHY.

Reference:—

WELLINGTON, "Railroad Location," p. 873.

Lines in mountainous sections or a route cutting transversely a drainage area involve heavier construction and operating costs than a route through a level country or one following a natural water course. (See Chapter VIII.)

Topography indicates to a large extent the dangers from washouts, floods, landslides, snowdrifts, and the like. Neglect to offset unfavorable topography at time of construction leads to heavy operating costs.

IV. LOCATION WITH REFERENCE TO COMPETITION.

A. KINDS OF COMPETITION:

1. Competition of rail lines.
2. Competition of water lines.

B. CLASSES OF COMPETITION:

1. Competition for *through* (long haul) traffic.
2. Competition for local or *short haul* traffic.

C. FACTORS IN MEETING COMPETITION:

1. Terminal facilities.
2. Comparative length of haul (*short* vs. *long* routes).
3. Other physical factors, such as topography, grades, tracks, etc. (See also Chapter XI.)

V. LOCATION WITH REFERENCE TO CONNECTING TRANSPORTATION SYSTEMS:

- A. Connecting rail lines.
- B. Connecting water lines.

CHAPTER VIII

Physical Factors Underlying Investment Values

I. ROADWAY AND TRACK

References:—

WELLINGTON, "Economic Theory of Railroad Location,"
Chapters VII-X, pp. 195-398.

SAKOLSKI, "American Railroad Economics," pp. 102-124.

WEBB, "The Economics of Railroad Location."

FUNDAMENTAL INVESTMENT PRINCIPLE.

The construction of a railroad should be neither more nor less costly than is warranted by its traffic on its revenues.

"No increase of expenditure over the unavoidable minimum is expedient or justifiable, however great the probable profit and value of an enterprise as a whole unless the increase can with reasonable certainty be counted on to be in itself a profitable investment. Conversely, no saving of expenditure, however doubtful the future of the enterprise, when it can with certainty be counted on that the additional expenditure at least will be in itself a paying investment." (WELLINGTON, "Railroad Location," p. 15.)

A. LOCATION OR ALINEMENT:*

The three important factors of alinement affecting economical operation are (a) Distance, (b) Grades, and (c) Curves.

- (a) *Distance* affects construction cost and operating expense. *Unless the increase or reduction in distance is pronounced, however, it is not a serious factor in operating costs.* The shortest route constructed without reference to topographical or industrial considerations is in many cases less economical than detours made to avoid heavy construction cost or for the purpose of reaching intermediate population and traffic centers.
- (b) *Grades* indicates rise and fall of track from a level surface. The extent of rise and fall per hundred feet of distance is the usual method of grade measurement. Thus, a one per cent. grade is one that rises one foot per hundred feet of track.

Economic significance: Since ascending grades reduce the hauling capacity of locomotives and descending grades increase hauling capacity, *the character of the grades in relation to the direction of the railroad's traffic has an important bearing on operating economy.*

*"Location" is the technical engineering term for physical placement of track.

Favorable Grades are those which slant downward in the direction of the heaviest traffic movement. *Unfavorable Grades* are those which rise in the direction of the traffic.

A Ruling Grade is the most difficult to ascend on an operating section of a railroad. This grade determines the size and hauling power of the locomotives used and limits the length and weight of the trains.

Pusher Grades are grades requiring the use of one or more additional locomotives known as "helpers" to haul the train.

The *elimination or reduction of unfavorable grades* reduces operating expense by (1) permitting increase in size and weight of trains (2) by reducing size of locomotives required, and (3) by saving fuel, wages, and other operating costs.

The main consideration in grade reduction is whether the capital cost will be adequately offset by operating economies.

(c) *Curves.*

Curves reduce the speed and hauling power of locomotives, increase the cost of maintenance of track and rolling equipment, and are a source of wrecks and other accidents. Sharp curves also limit the size of locomotives and cars.

Curves are rendered necessary by the nature of the topography. Their presence in a railroad is justified by either the physical impracticability or the heavy expense of having the road built throughout in a straight line.

The determining factor in the total elimination or in the reduction of the sharpness of curves is the same as that applied to grades.

B. ROADWAY:

(1) *The Track.*

- (a) *The gauge or width between the rails.* Standard gauge (almost universal) is 4 feet 8½ inches between the rails.

Narrow gauge is 3 feet between the rails. This gauge is still used in mountainous and sparsely populated districts.

The broad gauge, (6 feet), with which the original Erie Railroad was constructed, has been entirely superseded by the standard gauge in the United States.

(b) *Track Facilities.*

In studying track facilities, a distinction should be made between "*miles of road*" and "*miles of track*." Many railroads have stretches of line comprising double, third, fourth tracks, etc. These additional tracks are known as "extra track" mileage.

Extra tracks are distinguished as "extra main track" (constituting running tracks for trains), "*sidings*" (also known as "passing tracks"), and "*yard tracks*."

A company should have sufficient "extra tracks" to handle its traffic speedily and economically and to avoid accidents, delays, or traffic congestion.

The determining factor in the provision of additional track facilities is the same as that relating to the elimination of grades and curves.

(2) *Rails.*

Rails are of steel and vary in *quality* and in *weight* (i. e., size). The *iron rail* has practically disappeared from American railroads.

Steel rails in use are *bessemer* or *open hearth*. The open hearth rail is gradually displacing those made with bessemer steel.

The size (i. e., *weight of rail per yard*) in a railroad should be determined by (a) the amount of traffic, (b) the weight of trains, and (c) the speed (impact) of trains. The quality of steel rails has been improved by the use of mineral and chemical alloys.

(3) *Ballast.*

"The requirements of a strong, firmly fastened track on a solid roadbed to accommodate loaded modern railroad equip-

ment magnifies the importance of ballast as a physical factor in economical railroad operation." (SAKOLSKI, p. 116.) The *materials used* range from ordinary soil to broken granite rock. The geology of the territory traversed frequently determines the ballast material, but as a general rule heavy trains require superior ballasting material.

(4) *Ties.*

Ties are designated according to character of the wood (cypress ties are the best). They are also classified as "*treated*" (for purposes of preservation) and "*untreated*," i. e., natural.

The life of a tie in the track and consequently the rate of tie renewals depends (a) on the quality of the tie, (b) the climate, (c) its location in the track with reference to drainage, and (d) the care with which it is placed and maintained in the roadbed.

Tie renewals constitute the largest single item among track materials costs.

(5) *Bridges and Trestles* limit the size, weight, and speed of trains in much the same way as grades and curves. Hence, the elimination of bridges and trestles is advantageous to economic operation.

Bridges and trestles are (in the order of their inferiority) constructed of *timber*, *masonry*, *steel*, and *reinforced concrete*.

- (6) *Tunnels* are, as a rule, an adverse feature of railroad construction since they limit transportation capacity by restricting the speed and movement of trains. They are also an occasional source of wrecks.

Tunnels are constructed to avoid or to eliminate heavy grades, costly open cuts, and large detours of track.

C. TERMINALS AND TERMINAL FACILITIES:

These comprise *yards, stations, docks, warehouses, grain elevators*, and other special facilities employed in receiving and distributing passengers and freight.

Adequate, properly located, and well-equipped terminal facilities are an important factor in economic operation, since traffic congestion at terminals hinders the full capacity operation of tracks. Moreover, inadequate terminals are a fertile source of car shortage.

The importance of adequate terminal facilities in promoting economic operation justifies the heavy capital expenditures for their acquisition.

CHAPTER IX

Railroad Rolling Equipment

References:—

SAKOLSKI, "American Railroad Economics," pp. 124-134.
WELLINGTON, "Railroad Location," Chaps. XI-XII,
pp. 329-492.

FUNDAMENTAL PRINCIPLE.

"The supply of rolling equipment should be neither more nor less than required to move the traffic in an economical and efficient manner. Anything else is wasteful." (SAKOLSKI, p. 126.)

Equipment, moreover, should be suited to the service performed, viz.:

Passenger Service.

Freight Service.

Water Service.

Work and Yard Service.

MEASUREMENT OF EQUIPMENT FACILITIES.

Progressive Improvement of railroad rolling stock has been so rapid that it is difficult to measure the facilities of a railroad by mere enumeration of units of equipment. On almost

every railroad, equipment varies from the most modern to the more or less obsolete type.

One of the greatest expenses of American railroads is the rapid replacement of obsolete equipment by more modern types in order to meet the public demand for better service.

A. LOCOMOTIVES:

Measurement of locomotive facilities:

Since a pronounced increase in the size of engines on railroads, though resulting in a numerical reduction, may produce larger hauling capacity, *the best unit for measuring locomotive facilities is the "Tractive Power Pound."*

By *Tractive Power* is meant the final pulling force that an engine is capable of exerting while in motion. This force is estimated usually in pounds according to prescribed formulas.

Tractive Power depends largely on three factors:

1. Steaming capacity.
2. Cylinder capacity.
3. Weight on driving wheels.

The modern type of heavy locomotive having large tractive force is equipped with double boilers and with two or more sets of articulated driving wheels on which the entire weight of the engine rests.

The progress of locomotive types on a railroad should be determined by:

- (a) the amount and kind of the traffic.

- (b) the character of the grades and curves.
- (c) the physical structure of roadbed and track, the bridges and trestles, and the size (weight) of the rail.

B. CARS:

Railroad cars, both passenger and freight, even when separately considered in classes, differ in original cost and in expense of upkeep as well as in size, in use, and in durability.

Classification:

Cars, in accordance with their quality and durability, are classified as *wooden*, *steel-underframe*, and *all-steel*.

Measurement of Car Facilities:

Car capacity is the best available unit for measuring car facilities. This unit has reference to the carrying capacity (in tons) for freight cars and passengers' seating capacity in passenger cars. The capacity of each car, whether of *flat*, *open*, *gondola*, or *box* type is calculated on the basis of use for which the car is adapted and not on the cubic capacity.

Along with the improvement in the quality of car construction there has been a *progressive increase in the size and carrying capacity* of cars since the origin of railroads.

Many railroads own and operate specialized types of cars, such as milk cars, tank

cars, refrigerator cars, automobile cars, and the like. Equipment of this character is also furnished by shippers and by companies known as *private car lines*. Several of the latter are controlled by railroad companies.

C. MARINE EQUIPMENT:

Steamers, ferry boats, tugs, and barges, etc.

Marine equipment is essential to all railroads connecting with water terminals or having connection with water routes. On some American railway systems the investment in marine equipment is quite large. Thus, all the trunk lines entering New York Harbor own numerous water craft ranging from small freight barges to large car ferries and sea-going tugs. This equipment is an integral part of the railroad property and is exclusive of stock ownership in steamship lines and other water transportation enterprises.

CHAPTER X

Miscellaneous Assets

Reference:—

"Electric Railway Supplement," of The Commercial and Financial Chronicle.

I. INVESTMENT IN TRANSPORTATION PROPERTIES.

A. TROLLEY LINES:

1. Extent of control.
2. Method of control (direct or through holding company).
3. Relationship to the railroad properties:
 - (a) as competing lines.
 - (b) as auxiliary lines (feeders).

B. STEAMSHIP LINES:

1. Extent of control.
2. Method of control.
3. Relationship to railroad business:
 - (a) as competing lines.
 - (b) as auxiliary to or extension of rail lines.

Under the Panama Canal Act railroads are prohibited from owning or controlling steam-

ship lines unless the ownership is sanctioned by the Interstate Commerce Commission.

C. PRIVATE CAR LINES.

II. NON-TRANSPORTATION PROPERTIES.

Reference:—

JONES, "The Anthracite Coal Combination in the United States."

A. COAL MINES:

1. Extent of control or ownership.
2. Method of control, i. e., direct, or through holding company, or through common administration control.
3. Relation to railroad property.
 - (a) as source of traffic.
 - (b) as source of income.
 - (c) as source of fuel supply.

B. OIL AND MINERAL LANDS:

1. Extent of control and ownership.
2. Method of control (i. e., direct, through holding company or through common administrative control).
3. Relationship to railroad.
 - (a) as source of traffic.
 - (b) as source of revenue.
 - (c) as source of fuel supply.

C. AGRICULTURAL AND TIMBER LANDS:

1. Source of ownership (i. e., Government grant or purchase).

2. Extent of control.
3. Relationship to railroad.
 - (a) as source of traffic.
 - (b) as source of income.
 - (c) as source of tie supply.

D. MISCELLANEOUS:

1. Real estate holdings.
2. Power houses.
3. Terminal properties (grain elevators, warehouses, etc.).
4. Other.

With some railroads, non-transportation operations have been a leading factor in financial progress. The ownership of coal mines, of steel mills and of oil and ore lands are a few of railroad undertakings. The Philadelphia & Reading was forced into three reorganizations, caused by excessive investments in unproductive coal lands. On the other hand, the Northern Pacific was enabled in 1908 to pay an extra cash distribution to shareholders of more than 11 per cent. from profits of an industrial subsidiary. Similarly, the Great Northern Railroad, in 1906, distributed to each stockholder a proportionate share of its ore properties. A difficult problem for the investor is the ascertainment of the real worth of non-railroad undertakings. Recent developments indicate that the railroads may be required to divest themselves of non-railroad property. The United States Supreme Court has already decreed that the Reading Company's joint control of coal and railroad property is in violation of the Anti Trust Act.

CHAPTER XI

Analysis of Traffic

References:—

- SAKOLSKI, "American Railroad Economics," pp. 135-168.
MOODY, "How to Analyze a Railroad Report."
EATON, "Railroad Operations," pp. 188-254.
MORRIS, "Railroad Administration," pp. 224-249.
WOODLOCK, "The Anatomy of a Railroad Report."

I. PASSENGER AND FREIGHT BUSINESS.

With most railroads in the United States the freight business, both in volume and extent, and also in the revenues derived therefrom, is predominant over the passenger business. Accordingly, *attention of the student should be confined largely to the freight traffic statistics.*

Passenger traffic, on account of the public demand for speed, comfort, and convenience, *cannot be handled with the same economy as freight traffic.* Roads doing a heavy passenger business should not be compared in the matter of traffic statistics with lines having an almost exclusive freight business.

II. GENERAL CLASSIFICATION OF TRAFFIC STATISTICS.

Two general classes, viz.:

- A. Statistics indicating the volume and the character of the traffic.
- B. Statistics indicating relative degree of operating efficiency and economy.

A. STATISTICS INDICATING VOLUME AND CLASS OF TRAFFIC:

Herein are included all data relating to:

- (a) The classes and kinds of commodities carried.
- (b) The average rate received for each and for all classes.
- (c) The volume and density of the traffic, and
- (d) The average distance each unit is hauled.

Each factor, i. e., *class of commodity, rate, volume, length of haul* affects earning power.

I. *Interstate Commerce Commission's Classification of Commodities Carried:*

- (1) Products of agriculture.
- (2) Products of animals.
- (3) Products of mines.
- (4) Products of forests.
- (5) Manufactures.
- (6) Merchandise and miscellaneous (including all *less-than-car-load-lot* shipments).

The relative volume of each class of commodity carried should be studied as affording:

- (1) A means of choosing roads that will bear comparison in the analysis of efficiency or economy in operation.
- (2) An indication of the kinds of equipment required to move the traffic economically.
- (3) An indication of the direction of the main traffic movement and the ratio of empty to loaded car movement.

2. *Diversification of Traffic.*

A railroad system may be largely dependent for revenue on one class of traffic (viz.: coal or ore) or it may have a diversified traffic, i. e., one class of freight is not *disproportionately* large or small.

This does not mean that each class of commodity should bear the same ratio to the traffic carried.

Diversity of traffic is an economic advantage since it promotes stability of earnings and an equal loaded car movement in both directions.

3. *Average Length of Haul.*

This figure is obtained by dividing the total *ton-miles* (i. e., the total tons multiplied by the sum of the distances each ton is carried) by the *total tons carried*.

The greater the average haul per ton of freight or average journey per pas-

senger, the smaller proportionately will be the operating costs per unit of traffic. Accordingly, an increase in the *average length of haul*, other things being equal, is an indication of better operating economy.

The average length of haul is dependent primarily upon:

- (1) length and distribution of the company's lines.
- (2) the character of its principal traffic.

(Articles of great bulk or weight relative to market value ordinarily have a shorter average haul than articles of small bulk and high price.)

Diversity of freight business; growth in density of freight and passenger traffic and increase in the average length of haul are important features in economic railroad operation.

B. STATISTICS FOR MEASURING OPERATING ECONOMY AND EFFICIENCY:

I. *The Principal Units of Railroad Service:*

- (a) *The ton-mile*, representing the movement of one ton a distance of one mile.
- (b) *The train-mile*, representing the movement of one train (i. e., one or more cars attached to one or more locomotives) moved a distance of one mile.

- (c) The *locomotive-mile*, representing the movement of a locomotive (with or without cars) one mile.
- (d) The *average trainload*, representing total ton-miles divided by total freight train-miles.
- (e) The *average carload*, representing the total ton-miles divided by the total freight car-miles.

These statistical measurements of cost or of service performed should be used with caution because of the lack of homogeneity in the factors from which the aggregates and the averages are compiled. There is no uniformity in the conception of a *ton* of freight, a *locomotive*, or a railroad *train*. Accordingly, the interpretation of these statistical units, as measuring railroad operating costs and efficiency, is a most complicated and difficult task. Satisfactory results cannot be obtained merely by a study of the bare statistics.

2. *Indexes of increasing operating efficiency and economy.*

- (a) An increase in the number of *ton-miles* accompanied by a stationary or decreased number of *train-miles*.
- (b) An increase in the number of *ton-miles* accompanied by a stationary or decreased number of *locomotive-miles*.
- (c) An increase in *train-miles* accompanied by a decrease in *locomotive-miles*.

- (d) An increased average *trainload* accompanied by stationary or decreased *locomotive-miles*, and without an increase in the *average tractive power* of locomotives in use.
- (e) An increase in the average *car-load* accompanied by increased average *trainload* and not caused by larger carrying capacity of cars.

The highest operating economy implies that each locomotive and each car of a railroad shall move the maximum number of tons with proper expedition and at a minimum expense. To accomplish this requires (1) a well-managed railroad property, (2) an abundance of traffic, and (3) adequate motor power. If the amount of traffic is not commensurate with equipment capacity heavy trainloads may result in *lower train speed* and *frequency*. The character of a company's transportation business, therefore, commands consideration in estimates of operating efficiency. The railroad manager may desire to handle traffic at the lowest operating cost but this may be opposed to the public demand for handling the business speedily. Moreover, to satisfy the public demand the railroad may be required to maintain time schedules in freight as well as in passenger service, thus sacrificing heavy trainloads. Any study of economical traffic handling, therefore, should recognize the factors of speed and train frequency as well as climatic and topographical conditions.

CHAPTER XII

Railroad Financial Statements

References:—

HOOPER, "Railroad Accounting."

SAKOLSKI, "American Railroad Economics," pp. 169-264.

MOODY, "How to Analyze a Railroad Report."

ADAMS, "Railroad Accounting."

I. THE CLASSIFICATION OF FINANCIAL DATA.

1. The *Income Account*, exhibiting the data of operation.
2. The *Profit and Loss Account*, showing the distribution of the net profits and the part thereof that remains in the business as a surplus.
3. The *General Balance Sheet*, or statement of financial condition on a specified date.

Uniform Railroad Accounts.

The American system of railroad accounting is prescribed and controlled by the Interstate Commerce Commission.

The underlying motives of this control are

- 1—Desire to know actual operating costs and profits with a view to adjusting rates.
- 2—Desire to obtain reliable statistical information.

Features of Interstate Commerce Commission Accounting Regulations:

References:—

SAKOLSKI, *op. cit.*, pp. 173-186.

HOOVER, *op. cit.*, Chap. III.

ADAMS, *op. cit.*, Chaps. I and II, pp. 4-38.

1. Absolute separation of rail transportation operations from auxiliary operations.
2. Exclusion of taxes from among the direct costs of operation.
3. Establishment of joint facilities accounts covering records of the use and operation of facilities used jointly by two or more railroads.
4. Inclusion of depreciation charges as a direct operating expense.
5. Rigid separation of improvement and betterment expenditures from operating costs.
6. Uniform practice in crediting premiums received and in charging discounts paid in the sale of capital securities.
7. Strict regulations regarding deductions for losses from the abandonment of property.

II. THE INCOME ACCOUNT.*

References:—

HOOVER, "Railroad Accounting," Chap. IX, XI, XIII.

*The student should select the latest income account of a standard railroad and analyze it in connection with the study of this chapter.

SAKOLSKI, "American Railroad Economics," Chaps. IX-X, pp. 187-240.

ADAMS, "Railroad Accounting," Chaps. V-VIII, pp. 86-145.

The Form of the Account:

Four principal sections:

1. Railroad operating items.
2. Income from investment operations (investment income).
3. Deductions from gross corporate income (fixed charges).
4. Distribution of net corporate income.

A. DETAILS OF OPERATING REVENUES.

Operating Revenue Items:

1. Revenues from passenger traffic.
2. Revenues from freight traffic.
3. Other railway operating revenues.
4. Total operating revenues.

B. ANALYSIS OF OPERATING REVENUES.

A. Passenger Revenues.

1. Calculate the percentage of passenger revenue to total revenue to determine the relative importance of passenger business.
2. Investigate whether passenger traffic is *local, commuting, or long distance*.

B. Freight Revenues.

Co-relate this data with the information concerning:

- (1) *traffic sources*, (2) *classes, volume, length of haul*, and (3) *rates per ton-mile*.

C. Other operating revenues.

Unless this item is considerable in amount there is no value in its analysis.

C. ANALYSIS OF OPERATING EXPENSES.

References:—

SAKOLSKI, "American Railroad Economics," pp. 195–
217.

HOOPER, "Railroad Accounting," pp. 84–219.

ADAMS, "Railroad Accounting," pp. 86–108.

Character of Railroad Operating Expenses.

Railroad operating expenses do not fluctuate *proportionately* with the amount of traffic or of earnings. The character may vary as follows:

1. Some expenses (estimated at about one half of total) are *fixed* regardless of amount of business.
2. Some expenses vary *directly but not proportionately* with the business.
3. Some expenses vary *directly and proportionately* with the business. These constitute a small part of the total operating costs.

Principal Subdivisions of Operating Expenses (Interstate Commerce Commission Classification):

1. Maintenance of way.
2. Maintenance of equipment.
3. Traffic.
4. Transportation.
5. General.

These subdivisions may be grouped under:

- (a) *maintenance expenses*, i. e., (1) and (2), and
- (b) *other expenses*, constituting the remaining three subdivisions.

The basis of this classification is simple. Maintenance can be increased, reduced, or deferred to a large extent by the will of the management, whereas other operating costs are constantly recurrent and are not readily influenced by managerial policy. Money that goes into maintenance retains the value of the assets. Excessive expenditure in handling and moving traffic or in administration, however, is once and for all time spent and has no more earning power. *Increase in maintenance costs, therefore, may be advantageous to the investor, whereas increase in other operating expenses, not compensated by larger revenues, is a disadvantage.*

The operating ratio is the amount of the operating expenses expressed in *percentage* of the operating revenues.

This percentage is generally considered a *valid index of economical handling of the railroad's business*. It should be considered, however, only with reference to changes in the various conditions and factors influencing operating costs.

D. OTHER INCOME ITEMS.

- 1. Rents accrued from lease of road.
- 2. Other rents—credits:
 - (a) Hire of equipment—(net cost).

- (b) Joint facilities.
- (c) Miscellaneous rents.
- 3. Separately operated properties-profit.
- 4. Dividends declared on stocks owned.
- 5. Interest received or accrued on funded debt owned or controlled.
- 6. Interest on other securities, loans, and accounts.

“Other Income” arises largely from ownership of securities of other companies, and consists mainly of dividends and interest. *This income generally can be regulated by the holding company*, since in most cases the ownership of the securities carries with it the administrative control of the subsidiary company. Accordingly, a holding company can arbitrarily draw on the profits and surplus of its subsidiaries.

E. GROSS CORPORATE INCOME.

The total net income of the railroad corporation from all sources is termed by the Interstate Commerce Commission *Gross Corporate Income*. From this item the following charges (frequently termed “fixed charges” are paid):

Deductions from Gross Corporate Income.

Rents accrued from lease of other roads.

Other rents—debts:

- (a) Hire of equipment—balance.
- (b) Joint facilities.
- (c) Miscellaneous rents.

Separately operated properties—loss.
Interest accrued on funded debt.
Other interest.
Sinking funds chargeable to income.
Other deductions.
Total deductions from Gross Corporate Income:

F. NET CORPORATE INCOME (OR DEFICIT).

Net Corporate Income is the remaining amount of income after deduction of all *fixed charges*. It is generally known as the "*Margin of Safety*" since it is the amount on which the security of income of the bonds of the company can be computed in relation to the earning power.

The questions as to an "ideal" Margin of Safety in the analysis of railroad income statements is of purely academic interest. The wide disparities in operating conditions affecting income stability do not permit the establishment of a definite rule. It is evident from the relative market prices of railroad securities that a margin of 25 per cent. above fixed charges in one railroad company's income statement is a better basis of security value than a 50 per cent. margin of another. *Stability of earnings* is a factor in market values eliminating the necessity of a large margin of safety.

G. DEDUCTIONS FROM NET CORPORATE INCOME.

Dividends declared:
(a) On preferred stock.
(b) On common stock.
(c) On other securities.

Additions and betterments charged to income.

Appropriations to reserves.

Miscellaneous:

The balance remaining is carried forward to profit and loss (surplus).

It has been a common practice among American railroad companies to apply part of the Net Corporate Income directly to the uses of the property. Sums so set aside are called "Appropriations from Income." In accordance with Interstate Commerce Commission regulations these appropriations are to be permanently carried in an account called "Appropriated Surplus" to be distinguished from the "Profit and Loss" Surplus.

The purpose of withholding all or part of Net Corporate Income from shareholders is to avoid heavy increases in capital securities. In this way the railroad's credit is improved.

III. THE PROFIT AND LOSS ACCOUNT.

The Profit and Loss Account summarizes the changes in the corporate surplus or deficit resulting from operations as well as from changes effected by appropriations of surplus made at the option of the company or by miscellaneous losses or gains not provided for elsewhere.

The Profit and Loss Account is therefore the connecting link between the *Income Account* and the *General Balance Sheet*. The total balance in the account is shown in the *General Balance Sheet Statement*.

IV. THE GENERAL BALANCE SHEET.*

References:—

SAKOLSKI, "American Railroad Economics," Chap. XI, pp. 241-264.

ADAMS, "Railroad Accounting," Chap. IX, pp. 163-192.

HOOPER, "Railroad Accounting," Chap. III, pp. 28-83.

VANDERBLUE, "Railroad Valuation," pp. 108-140.

I. PURPOSE.

The object of the *General Balance Sheet* is to show the company's financial condition as produced both by operating results and by changes in capitalization. It is a representation of cumulative effects, whereas the *Income Account* shows merely the results of operation during a fixed period. In studying railroad financial progress, therefore, the *General Balance Sheet* furnishes a better index of investment value than a statement of current earnings, which may merely indicate the effect of temporary conditions.

2. SURVEY OF THE GENERAL BALANCE SHEET.

A. *Assets.*

The assets in the General Balance Sheet are placed under six groups: (1) Road and Equipment; (2) Securities; (3) Other Investments; (4) Working As-

*In reading through this section the student should have before him the balance sheet of some standard railroad company.

sets; (5) Accrued Income not Due; and (6) Deferred Debit Items. The first three are classed as "Property Investment" and are technically known as "*fixed assets*" because they are permanent factors of the enterprise. The other assets are called "current" or "liquid assets" because the identity of each unit is constantly converted and interchanged by the operations of the company. The last general group, i. e., —"Deferred Debit Items"—represents chiefly prepayments or unliquidated advances. These include prepaid rent, insurance and taxes, and funds held apart from the general assets of the company for reserve and sinking fund purposes.

B. *Liabilities.*

The classification of the liabilities corresponds very closely to that of assets. The capital stock and the bonded indebtedness are set opposite the *Property Investment*, and the *Working Liabilities* are an offset to the *Working Assets*. The *Accrued Liabilities not Due* together with the *Deferred Credit Items* are accounts of the same nature as the *Deferred Debit Items*. The *Surplus* accounts (which include the *Profit and Loss* balance), however, have no distinctive countervailing item among assets. In fact, the *Surplus* is merely an item balancing assets and liabilities.

ties. It is placed on the asset side of the General Balance Sheet whenever all the other liabilities exceed the total assets. In this event the Surplus becomes a negative quantity, i. e., a "deficit."

It is the general belief that a large "Surplus" must be accumulated and shown in the Balance Sheet in order to enhance railroad borrowing power. In other words, each addition to "Surplus" means greater underlying strength to the securities. This is only true, however, when additions represent actual increased value of assets. The theory assumes that all expenses properly chargeable to operating revenues have been fully met and that reserves or appropriations for obsolescence, actual or probable displacement, and impairment in earning power of assets have been fully deducted. Otherwise, the "Surplus" is merely a "paper surplus".

A large surplus fosters stock speculation because of "melon-cutting". By this is meant a pro rata distribution to shareholders, usually in additional stock representing the whole or part of the accumulated Surplus.

CHAPTER XIII

Railroad Capitalization

References:—

SAKOLSKI, "American Railroad Economics," Chap. XII,
pp. 265-285.

RIPLEY, "Railroads," Chaps. II and III, pp. 53-130.

I. NATURE OF CAPITALIZATION.

A. DISTINCTION BETWEEN "CAPITAL" AND "CAPITALIZATION."

"Capital" is the amount of actual money or equivalent value invested in the property whether obtained from the issue of securities or from surplus earnings.

"Capitalization" represents merely the nominal (i. e., par value) of securities outstanding that have a maturity of more than one year from date of issue.

Railroad Capitalization is largely the result of arbitrary adjustment of capital securities due to reorganizations, mergers, and changes in credit conditions. Only within recent years has there come to be state regulation or railroad capital issues.

There is very little amortization of railroad capital. Moreover, capital unwisely

invested in railroads cannot be withdrawn except possibly by dismantlement of track and structures. Investment, both profitable and unprofitable, remains largely in fixed form.

B. GROSS CAPITALIZATION AND NET CAPITALIZATION.

Net Capitalization as distinguished from *Gross Capitalization* is the net amount of the securities outstanding representing investment in the railroad property of the company. It therefore does not include the part of the total capitalization representing investments in other companies or in other than railroad property.

Gross Capitalization after deduction of the asset items of the General Balance Sheet representing *Investments* and *Treasury Securities* becomes the railroad *Net Capitalization*. Thus, if the gross capitalization is \$150,000,000 when the *Investments in Other Companies* amount to \$20,000,000, and the unissued treasury securities amount to \$10,000,000, the net capitalization is calculated at \$120,000,000.

C. RELATIONSHIP OF CAPITALIZATION AND LEASED MILEAGE.

Leased lines as a rule are not represented in the capitalization of the lessor company. Leases, however, involve the payment of rentals which are as much fixed charges as

the interest payments on bonds. Hence, the disparities of the relationship between capitalization and fixed charges through the leasing of railroad lines should be carefully noted.

II. STYLE OF CAPITALIZATION.

The relative proportions of various classes of securities issued by a railroad company is of far greater importance as an index of investment value than the aggregate amount of capitalization. The issue of bonds usually involves a fixed charge against income, whereas capital stock does not. Stocks, as a rule, must be issued and sold at or above par (i. e., 100 per cent. of face value). Bonds can be issued at a discount. Other things being equal, a railroad cannot as a rule sell capital stock above the par value, unless it pays a dividend on such stock greater than the net interest rate on its bonds. Hence, railroad companies whose shares sell below par or face value are generally compelled to issue bonds for new capital. This tends to increase unduly the fixed charges.

III. RELATION OF CAPITALIZATION TO INTEREST CHARGES.

In a correct estimate of capitalization it is of fundamental importance to take into consideration the interest or dividend

rate attached to the security issues. If all railroad companies had the same proportion of each class and kind of securities outstanding, with correspondingly uniform interest and dividend rates, the measurement of relative capitalization would be a simple matter. The absolute diversity in these relationships, however, renders any study or comparison of railroad capitalization utterly useless. A railroad having \$60,000,000 of preferred stock on which it pays the full dividend of 5 per cent. is no better off in respect to capitalization than a company with \$75,000,000 of 4 per cent. preferred stock. Moreover, a railroad company which issues 5 per cent. 30-year bonds at par for \$50,000,000 cash instead of issuing for the same cash sum \$55,000,000 4 per cent. bonds of the same maturity may be justly accused of poor financial management. In the case of the 5 per cent. bonds the annual interest is \$2,500,000. The charge on the 4 per cent. issue, including discount amortization, is less than \$2,367,000.

IV. CAPITALIZATION AND PHYSICAL VALUE.

References:—

VANDERBLUE, "Railroad Valuation."

RIPLEY, "Railroads, Finance and Organization," Chap. X.

A. IMPORTANCE TO SECURITY HOLDERS.

The Transportation Act of 1920 pro-

vides that the general level of railroad rates shall be adjusted to give a *fair return on the value of railroad property*. Thus, *value* rather than *capitalization* will be basis of railroad return.

B. VALUATION BY THE INTERSTATE COMMERCE COMMISSION.

The railroads of the United States have been undergoing valuation by the Interstate Commerce Commission since 1913.

The investigation comprises the determination of the "three cost figures," viz.:—

The cost of reproduction—new.

The cost of reproduction—less depreciation.

The original cost to date.

It is still undetermined which figure will be used as a rate-making basis.

C. ELEMENTS ENTERING INTO FAIR VALUE.

The United States Supreme Court ruling in the Case, *Smyth vs. Ames*, defined the elements of value for rate-making purposes as follows (see 169 U. S. 466-547):

The original cost of construction, the amount expended in permanent improvements, the amount and market value of bonds and stock, the present as compared with the original cost of construction, the probable earning capacity under particular rates prescribed by statute, and the sum required to meet operating expenses are all matters for consideration and are to be given such weight as is just and right.

CHAPTER XIV

Railroad Receivership

References:—

- SHORT, "The Law of Railway Bonds, etc.," pp. 504-701.
HEFT, "Holders of Railroad Bonds and Notes," Chap. VI.
DAGGETT, "Railroad Organization."
CLEVELAND & POWELL, "Railroad Finance," Chap. XIII,
pp. 227-247.
JAMES BYRNE in "Some Legal Phases of Corporate Financing, Reorganization, and Regulation," pp. 77-151.

1. DEFINITION.

Receivership is the placing of the railroad under the control of a court, thereby taking it out of the control of stockholders. A receiver is appointed by the court to operate the property under the charter of the company and under the supervision of the court.

2. CAUSES OF RECEIVERSHIP.

The principal cause of receivership is the inability of the railroad to meet its current or capital obligations.

An occasional underlying cause is the desire to readjust the capitalization or reorganize the company's finances.

3. PURPOSES OF RECEIVERSHIP.

To preserve and protect the property as a *working unit* and an *income-producing organization*. Occasionally the underlying purpose is to wind up the corporate existence of the company.

4. METHODS OF EFFECTING RECEIVERSHIP.

(a) *Application for Receiver by Railroad Company.*

When the directors, principal officers, and legal counsel of a railroad company are convinced that a receivership is inevitable, some creditor is asked to file a general creditor's bill prepared by the company's counsel.

(b) *Application by trustee of bondholders.*

This method is rarely used, since whenever a company is confronted with a possible default, action for a receivership is taken by the company.

(c) *Application by unsecured creditors.*

This method is rarely used except in connection with either of the foregoing methods.

5. EFFECT OF RECEIVERSHIP ON RIGHTS OF SECURITY HOLDERS.

Theoretically, receivership does not affect the legal standing of mortgages or other liens and claims, or their respective rights or priorities in payment, *except*, (1) that the court may direct that operating expenses be paid

out of the moneys in the hands of the receiver in preference to other claims; and (2) the court may order the receiver to issue and sell *receiver certificates* to obtain money to preserve the property and may order that such certificates *be a lien prior to certain mortgages, liens, or other existing claims.*— See HEFT, p. 214.

6. METHODS OF DISSOLUTION OF RECEIVERSHIP:

- (a) Through sale of the property under judgment of foreclosure. (*e. g.*, Western Pacific Railroad.)
- (b) Through reorganization without foreclosure. (*e. g.*, Chicago, Rock Island and Pacific.)
- (c) Through liquidation or satisfaction of claims without either foreclosure or reorganization. (*e. g.*, Seaboard Air Line.)

CHAPTER XV

Railroad Reorganizations

References:—

- CLEVELAND & POWELL, "Railroad Finance," Chap. XIV, pp. 248-271.
PAUL D. CRAVATH in "Some Legal Phases of Corporate Finance, etc.," pp. 153-234.
HEFT, "Holders of Railroad Bonds and Notes," Chap. VII, pp. 335-404.
RIPLEY, "Railroads, Finance and Organization," Chap. XII, pp. 370-411.
DAGGETT, "Railroad Reorganization."
DEWING, Articles in *The American Economic Review*, December, 1918, March and June, 1919.

I. DEFINITION.

"A rearrangement of the financial structure of a corporate enterprise, rendered necessary by insolvency or by the inability of the corporation to secure the necessary funds for its operation because of obstacles resulting from its financial structure." (See "Some Legal Phases of Corporate Finance, etc.," p. 153.)

II. PURPOSES OF RAILROAD REORGANIZATION:

1. Restablishment of corporate solvency.
2. Simplification of financial structure.

3. The adjustment of fixed charges to earning capacity.
4. Provisions of additional funds for betterments and working capital.
5. The establishment of new financial and administrative control.
6. Elimination of financial drain from non-paying enterprises or unprofitable subsidiaries.
7. Relief from embarrassing agreements.

III. PROCEDURE IN EFFECTING REORGANIZATIONS.

First: The creation of Protective Committees, each representing holders of a class of security.

Second: The formulation and filing of a reorganization plan and agreement.

Third: The underwriting of the plan by bankers or a syndicate.

Fourth: Securing approval of the plan by prior lien security holders and the court.

Fifth: The incorporation of a new company to take over the property.

Sixth: Culmination of foreclosure proceeding through legal sale of the property under direction and approval of the court.

Seventh: Provisions of new capital and other financial adjustments through cash assessments on security holders, and exchange or sale of securities.

IV. THE REORGANIZATION PLAN AND AGREEMENT.

A plan of reorganization is usually the result of negotiations between two or more committees, each of which represents holders of one or more issues of securities.

If the plan of reorganization results from an agreement on the part of several committees there is usually a *joint reorganization committee* made up of representatives of the various committees which join in the adoption of the plan, though sometimes the plan is carried out by one of the committees under an agreement with the others or by a banking firm acting as *Reorganization Managers*.

The Plan gives the following financial details of the reorganization:

- (1) Securities, if any, to be left undisturbed by the reorganization.
- (2) The cash requirements of the reorganization and methods of obtaining same.
- (3) The terms and conditions under which old securities holders are to receive new securities, viz., either through exchange, through cash payments, or both.

V. EFFECT OF REORGANIZATIONS ON OUTSTANDING SECURITIES.

1. *Legal and Commercial Status of various liens.*

In determining the relative value of these old underlying and divisional bonds,

reorganization managers are concerned with the fundamental property values behind the bonds and *not so much with the legal status or legal phraseology of the bonds or their mortgage.* "The basis of exchange is economic, not legal." (Dewing.)

2. *Leading factors in determining relative treatment of bondholders in reorganization:*
 - (a) Essential *earning capacity* of the property covered by the particular issue of bonds.
 - (b) The value of the specific property covered by the lien to the whole railroad system,
 - (1) As a source of traffic.
 - (2) As a *link* in a through traffic route.

VI. CLASSES OF REORGANIZATIONS.

1. *Reorganizations based on foreclosure of mortgages* or the enforcement of other rights of creditors and involving the organization of a new corporation to acquire the property with is the subject of the reorganization.

This includes reorganization where underlying securities may not be disturbed.

2. *Readjustments of the debt or share capital* because of insolvency or financial needs of some sort. The property in this case is not necessarily transferred to a new corporation.

3. The *recapitalization* of the corporation for some other purpose than to meet insolvency or correct defects of financial structure. This also may be accomplished either with or without the transfer of the property to a new corporation.

VII. CLASSES OF RAILROAD SECURITIES CREATED BY REORGANIZATIONS.

1. *Income Bonds*.—Most frequently exchanged for junior lien obligations.
2. *Preferred Stock*.—Frequently issued in exchange for junior lien obligations and some time in return for assessment.
3. *Voting Trust Certificates of Common Stock*.—Purpose of voting trust is to secure to the bondholders or their representatives the control of the reorganized property against the attempt of outsiders to get possession of the road by buying a majority of the low price stock.

CHAPTER XVI

The Marketing of Railroad Securities

References:—

"Institutional Holdings of Securities," 1919-1920 (formerly *Poor's Investment Holdings*).

CHAMBERLAIN, "The Work of the Bond House," Chap. IV.

MONTGOMERY ROLLINS, "Laws Regulating the Investment of Bank Funds."

I. PRINCIPAL PURCHASERS OF RAILROAD SECURITIES.

Railroad securities are widely distributed among all classes of investors. Among the principal purchasers are:

1. Insurance companies.
2. Savings banks and trust estates.
3. Publicly endowed institutions, such as colleges, hospitals, churches, etc.
4. Commercial and other banking institutions.
5. Individual investors.

I. INSURANCE COMPANIES.

Most of the states permit insurance companies to invest reserve funds in railroad bonds. The New York law now

prohibits life insurance companies to purchase shares of stock or a collateral security of which one third or more of the value consists of stock.

2. SAVINGS BANKS AND TRUST ESTATES.

Most of the states prescribe restriction on savings banks in the investment of their funds in railroad bonds. The restrictions are summarized in Appendix II.

In 1898 New York State enacted legislation permitting trustees to invest in bonds which were legal for purchase by savings banks.

On December 31, 1918, the savings banks of New York State owned at market value \$361,711,334 of railroad mortgage bonds. According to the report of the Comptroller of the Currency for 1919 national banks held out \$412,000,000 and the savings banks of the United States are reported to hold over \$900,000,000 of railroad bonds.

3. COMMERCIAL AND OTHER BANKING INSTITUTIONS.

These institutions do not ordinarily invest regularly in railroad securities, though they are permitted to do so by law. They are occasional buyers, using railroad bonds as a "secondary reserve." Commercial banks frequently lend on the basis of collateral consisting of railroad securities.

4. ENDOWED INSTITUTIONS.

These invest in the same class of securities as the savings banks and trust estates.

5. INDIVIDUAL INVESTORS.

Speculative securities and bonds having inferior liens find their largest market among this class of investors.

APPENDICES

APPENDIX I

ANALYSIS OF THE PRINCIPAL FEATURES OF THE TRANSPORTATION ACT OF 1920.

Return of Roads to Private Ownership.

It is specified that the roads shall be returned to private ownership on March 1, 1920.

Compensation After Termination of Federal Control.

Railroad companies shall be compensated for the first six months following the termination of Federal control, at the same rate as during that control.

Refunding of Carriers' Indebtedness to the United States.

The net indebtedness of each carrier to the United States may be funded for a period of ten years from the termination of Federal control with interest at 6 per cent. per annum, subject to the right of the carrier to anticipate the payment of the whole or any part of the indebtedness.

Consolidation of Railroad Properties.

The Interstate Commerce Commission is directed to prepare and adopt a plan for the consolidation of railroad properties into a limited number of competing systems, and consolidations are authorized when in harmony with the plan so adopted and approved by the Commission.

Joint use of Facilities.

The Interstate Commerce Commission, whenever in its opinion there exists an emergency, may require such joint

or common use of terminals, including main-line tracks for a reasonable distance outside of such terminals, as in its opinion will best meet the emergency and serve the public interest.

Federal Revolving Fund.

A revolving fund amounting to \$300,000,000 is created. Carriers may within two years after the passage of this Act, after hearing before the Interstate Commerce Commission, secure loans for not exceeding five years at 6 per cent. to enable them to properly serve the public during the transition period. A further fund of \$200,000,000 is appropriated for the financial settlement of matters arising out of Federal control.

Distribution of Railroad Earnings.

Net railway operating income in excess of 6 per cent. of the value of the property shall be utilized as follows:

One half of such excess shall be placed in a reserve fund maintained by the railroad.

The remaining one half shall go into a general railroad contingent fund.

Use of Carriers Reserve Fund.

A railroad may draw from its reserve fund for the purpose of paying dividends or interest on its stock, bonds, or other securities, or for rent of leased roads to the extent that its net railway operating income in any year is less than 6 per cent. of the actual value of the railroad's property, and after the reserve fund has been accumulated to the extent of 5 per cent. of the value of its property, the excess may be used for any lawful purpose.

Use of General Railroad Contingent Fund.

Loans bearing interest at 6 per cent. per annum to be made to railroads from general railroad contingent fund when applications therefor are approved by the Commission. The terms and the security from such loans to be prescribed by the Commission.

Interstate Commerce Commission to Initiate Rates.

In the exercise of its power to prescribe just and reasonable rates, the Interstate Commerce Commission can initiate as well as modify and establish rates.

Rate-Making Rule.

Rates are to be adjusted so that the carriers as a whole, or as a whole in each rate group or territory, will, under honest, efficient, and economical management and reasonable maintenance expenditures, earn an annual net railway operating income equal, as nearly as may be, to a fair return upon the aggregate value of the property of such carriers held for or used in the service of transportation.

Return on Capital.

During the two years beginning March 1, 1920, the Commission shall adopt $5\frac{1}{2}$ per cent. as a fair return on the actual value of railroad properties and at its discretion may add a sum not to exceed a total of $\frac{1}{2}$ per cent. for improvements, betterments, or equipment chargeable to capital account.

Control over Security Issues.

The Interstate Commerce Commission is given exclusive control over the issuance of all railroad securities, except notes maturing in less than two years when the total issues of said notes of the railroad amounts to less than 5 per cent. of its capitalization.

Labor Boards to Arbitrate Disputes Between Wage Earners and Employers.

The law authorizes a system of labor boards of adjustment to be established by railroads and employees. A central railroad labor board of appeal is created with power to hear disputes and initiate investigations. The members of this board, three of whom are to represent labor; three, railroad managers; and three, the public, are appointed by the President and confirmed by the Senate. There are no penal provisions for the enforcement of the decisions of this board.

APPENDIX II
ANALYSIS OF STATE LAWS WITH REFERENCE TO INVESTMENT BY SAVINGS BANKS
IN RAILROAD SECURITIES

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAPI- TAL STOCK REQUIREMENTS
CALIFORNIA	First mortgage, refunding mortgage, and underlying or divisional closed mortgage bonds of railroads incorporated in California and operating exclusively therein. The refunding bonds must provide for retirement of all underlying liens.	1½ times interest on all outstanding mortgage debt for at least one year preceding the issuance of the bonds.	Not stated	Not stated
	First mortgage, refunding mortgage, and underlying or divisional closed mortgage bonds of railroads incorporated in any other state operating at least 500 miles of standard gauge track. The refunding bonds must provide for retirement of all underlying issues.	1½ times interest on all outstanding mortgage debt for same period.	Not stated	Not stated

CALIFORNIA (<i>Cont'd</i>)	Railroad bonds guaranteed as to interest and principal by a railroad company meeting the above requirements. All bonds guaranteed after passage of the Act must establish a lien upon all the operating properties of the guaranteeing corporation, which takes precedence over any subsequent issues of its mortgage obligations.	1½ times interest as above, and in addition thereto sufficient taken from the earnings of all corporations whose bonds are guaranteed to qualify such bonds as savings bank investment as provided above.	Not stated	Not stated
CONNECTICUT	Bonds (issued or guaranteed) of New England and New York Railroads having 300 miles of line.	Not stated	4% per annum for five years previous to the year of investment.	One third of authorized funded debt (excluding bonds reserved to retire prior liens, but including guaranteed issues of other companies.)
	Bonds or debentures secured by a mortgage or having a prior equity		4% per annum for five years pre-	One third of authorized funded debt

ANALYSIS OF SAVINGS BANK LAWS WITH REFERENCE TO INVESTMENT IN RAILROAD SECURITIES (Cont'd)

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAPI- TAL STOCK REQUIREMENTS
CONNECTICUT (Cont'd)	covering 75% of the roads of railroads having 500 miles of line incorporated in one of the New England States and with at least one half of the road located within said state. A refunding mortgage must provide for retirement of prior liens.	Not stated	vious to the year of investment.	(excluding bonds reserved to retire prior liens, but including guaranteed issues of other companies).
	First Mortgage Bonds covering 75% of the road owned in fee of a railroad in the United States having (during five years prior to investment) 500 miles of line or more.	Annual gross earnings must be not less than \$10,000,000 (for 5 yrs.) if road is less than 500 miles. Such gross earnings must be five times interest and rental charges.	4% per annum for five years previous to the year of investment.	
	Equipment Trust Notes	Annual gross earnings must be not less	4% per annum for five	

CONNECTICUT (Cont'd)		than \$10,000,000 (for 5 yrs.) if road is less than 500 miles. Such gross earnings must be five times interest and rental charges.	years pre- vious to the year of in- vestment.	
MAINE	Railroads of Maine, and 1st Mtg. ¹ Bonds of Rail- roads of New England, New York, New Jersey, Penn., Maryland, Ohio, Indiana, Kentucky, Michigan, Wisconsin, Minnesota, Iowa, Illinois, Missouri, Kansas and Nebraska, also Bonds of Central Pacific, Union Pacific, and Northern Pacific Railroads. Mort- gage Bonds of any rail- road leased to any divi- dend paying railroad in New England upon terms guaranteeing the pay- ment of regular interest and dividend payments	Not stated	Not stated	Not stated

¹Includes Bonds issued for Refunding 1st Mtg. Bonds.

ANALYSIS OF SAVINGS BANK LAWS WITH REFERENCE TO INVESTMENT IN RAILROAD SECURITIES (Cont'd)

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAPI- TAL STOCK REQUIREMENTS
MAINE (Cont'd)	upon that stock of such leased road. Stocks, Bonds and Notes of New England Rail- roads—Stocks and Notes of New York Central, Lake Shore, Illinois Cen- tral, and Penna. R. R. Companies.	Not stated	5% dividends for 10 years previous to in- vestment.	One third of Funded In- debtedness.
MASSACHUSETTS ¹	Bonds and Notes of Rail- roads incorporated in Massachusetts and whose lines are located wholly or partly therein. 1st Mtg. Bonds ^a issued or guaranteed by New England Railroads, one half at least of whose prop- erty is in those States. Ref. Mtg. Bonds which	Not stated	4% per an- num for 5 years next preceding in- vestment. 4% per an- num for 5 years next preceding in- vestment with further re- quirement	Not stated

MASSACHUSETTS (Cont'd)	provide for retirement of 1st Mtg. of New England Railroads.	Not stated	that dividend payments for one year previous were equal at least one third of interest payments.	Not stated
	1st or Refunding Mtg. Bonds, as above, issued or guaranteed by U. S. Railroads having 500 miles and over. Mortgage must cover 75% of property.	\$15,000,000 gross earnings if less than 500 miles. Gross earnings to be at least 5 times fixed charges for 10 years.	One third of interest charges. ¹ 4% per annum for 10 years preceding investment. ²	One third of net authorized Funded Debt. ³
MICHIGAN	1st Mtg. Bonds issued or guaranteed under lease by U. S. Railroads. Bonds issued for Refund-	Not stated	4% annually for 5 years prior to investment. 4% annually	Not stated One third of

¹Trust Funds may be invested in 1st Mortgage R. R. Bonds of New England R. R.'s that have paid regular dividends for two years prior to investment.

²Includes debentures which constitute a prior lien, or are on an equal basis with prior lien obligations.

³If railroad fails to meet these requirements during a period of more than two years after investment, its bonds are no longer legal for savings banks.

ANALYSIS OF SAVINGS BANK LAWS WITH REFERENCE TO INVESTMENT IN RAILROAD SECURITIES (Cont.)

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAPI- TAL STOCK REQUIREMENTS
MICHIGAN (Cont'd.)	ing 1st Mtg. Debt, and for improvements, etc., when approved by State Securities Commission.	Not stated	for 3 years ¹ prior to in- vestment.	Bonded Debt.
MINNESOTA	1st Mtg. Bonds secured by government land grant. 1st Mtg. Bonds and Ref. Bonds issued to retire 1st Mtg. Bonds.	Not stated	4% for five years prior to investment. ²	Not stated
MISSOURI	Mtg. Bonds of Rail- roads in selected Middle Western States, together with 1st Mtg. Bonds of the Central Pacific, Union Pacific, New York Central, West Shore, and Pennsylvania Railway Companies.	Operating Expenses and Fixed Charges for 3 years.	Not stated	Not stated
NEW HAMPSHIRE	Bonds and Notes of New Hampshire incorporated railroads.	Not stated	None	Not stated

NEW HAMPSHIRE (<i>Cont'd</i>)	Bonds issued or guaranteed by New England Railroads.		Regular dividends for two years prior to investment. 4% dividends for 3 years. 4% dividends for 5 years.	One third of Funded Debt.
	Bonds of other Railroads.	Not stated		
	Stocks and notes.	Not stated		
NEW JERSEY	1st Mtg. Bonds.		4% dividends for 5 years.	Not stated
	Ref. Bonds issued to retire entire funded debt.	Not stated		
NEW YORK ²	1st Mtg. Bonds of New York Railroads and of connecting and controlled Railroads.	Not stated	4% annually for 5 years previous to investment.	One third of Mtg. Debt.
	Mtg. Bonds issued to retire prior liens issued or guaranteed by selected Railroads and authorized prior to January 1, 1905.	Not stated	4% for 10 years previous to investment.	One third of Bonded Debt.
	Mtg. and Ref. Bonds of U. S. Railroads (covered)	Gross earnings (including coal sales)	4% for 5 years previous	One third of authorized 1st

¹Dividends of 4 per cent. for 10 years prior to investment is the requirement in the case of Commercial Banks and Trust Companies.

²This provision applies to Commercial Banks and Trust Companies.

³Not more than 25 per cent. of assets of Savings Bank to be invested in Railroad Bonds.

ANALYSIS OF SAVINGS BANK LAWS WITH REFERENCE TO INVESTMENT IN RAILROAD SECURITIES (Cont'd.)

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAP- ITAL STOCK REQUIREMENTS
NEW YORK (Cont'd)	ing not less than 75% of property) having a mile- age of 500 miles. ¹	to be 5 times inter- est and rental charges.	ous to invest- ment.	Mtg. Bonds, together with Bonds that were issued to retire prior liens.
	Assumed and guaranteed bonds which are prior in lien to and to be re- funded by general mort- gage bonds which are legal under foregoing pro- visions.	Not stated	Not stated	Not stated
OHIO ²	Mtg. and Collateral Trust Bonds. Stocks which have paid dividends for 5 years.	Not stated	3% Dividends for 5 years. ³	
RHODE ISLAND	Mtg. and Debenture Bonds, Equipment Notes, and Guaranteed Stock of Railroads of 100 miles or more.	Requires certain minimum income over a period of three years varying	None	None

RHODE ISLAND (Cont'd)	Stock of Railroads whose Bonds are legal investments.	with each class of bond and in some cases equal to twice the interest charges.	Same	4% dividends for 10 years.	None
TEXAS	1st Mtg. Bonds of Railroads domiciled in Texas. ¹				
VERMONT	Bonds and Notes of Vermont incorporated railroads.	Not stated	Not stated	Not stated	None
	1st Mtg. Bonds of New England incorporated Railroads, at least one-half of whole mileage is in these states.			4% per annum for 5 years and dividends must equal one third of bonded interest.	One third of authorized 1st Mtg. indebtedness, excluding refunding mortgages for retirement of 1st Mtg.
	Mtg. Bonds covering 75% of lines owned in fee		\$15,000,000 gross earnings, if less than		

¹ Mileage may be less than 500, if gross earnings are \$10,000,000 or more annually.

² Applies also to Trust Companies and Commercial Bank investments.

³ Applies also to State banks of deposit and discount.

ANALYSIS OF SAVINGS BANK LAWS WITH REFERENCE TO INVESTMENT IN RAILROAD SECURITIES (Cont'd)

STATE	CLASSES OF RAILROAD BONDS	MINIMUM EARNING REQUIREMENTS	MINIMUM DIVIDEND RE- QUIREMENTS	MINIMUM CAP- ITAL STOCK REQUIREMENTS
VERMONT (Cont'd)	of other railroads of 500 miles.	500 miles, and not less than five times interest and rental charges.	None	None
WISCONSIN	1st Mtg. Bonds or cor- sol. Mtg. Bonds issued to retire entire bonded debt.	Not stated	4 % per annum for 5 years pre- ceding invest- ment.	None

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